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NAVY REPATRIATED PRISONERS OF WAR: PSYCHIATRIC FINDINGS AND ADJ—ETC(U)  
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**NAVY REPATRIATED PRISONERS OF WAR:**

**PSYCHIATRIC FINDINGS AND ADJUSTMENT - THE FIRST TWO YEARS**

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**REPORT NO. 78-51**

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**NAVAL MEDICAL RESEARCH AND DEVELOPMENT COMMAND**  
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6 Navy Repatriated Prisoners of War: Psychiatric  
Findings and Adjustment - The First Two Years

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Precis

One hundred thirty-eight Naval Aviation Officers who had been prisoners of war in Southeast Asia were returned to the United States in 1973. As part of a planned longitudinal study, extensive medical evaluations were conducted at repatriation and annually thereafter.<sup>1</sup> A psychiatrist or a clinical psychologist completed a mental status examination and filled out a mental status form during each examination period. The mental status form was quantified, and the results correlated with a number of demographic, health, behavioral, and adaptational variables. Significant correlations were found between the mental status scores and the other variables.

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We greatly appreciate the research and computer assistance of J. Phelan, D. Robinson, T. Isaacson, N. Geller, & J. Deaton.

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<sup>1</sup>Voluntary Informed Consent: Each individual in this study signed a detailed Voluntary Informed Consent Form which in part contained the following: "I also consent to have my data used in any published scientific reports of this investigation, subject to the assurance of anonymity."

### Introduction

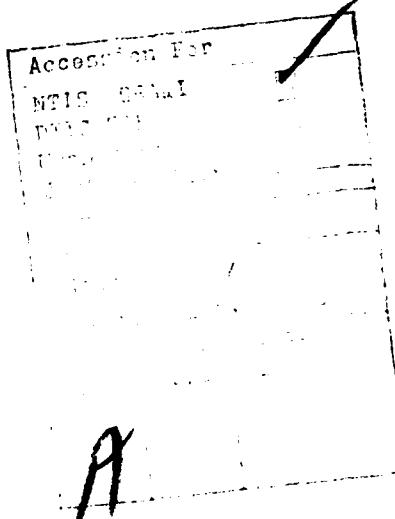
The treatment received by prisoners of war during World War II, the Korean Police Action, and the Pueblo Incident has been extensively reported in subjective accounts of remembered experiences (1-5), and in retrospective studies relating to their health and adjustment (6-10).

In March, 1972, the Center for Prisoner of War Studies (CPWS), Naval Health Research Center, San Diego, California, was organized as a combined Army and Navy facility. For the first time, an officially planned longitudinal study of repatriated Prisoners of War (RPWs), and of the families of the RPWs and those Missing in Action (MIAs) was instituted. The Charter of CPWS reads in part:

"The mission of CPWS is to conduct scientific studies of the effects of captivity upon the future adaptation of prisoners of war repatriates and to explore the effects of long-term absence of the military member upon the adjustment of the POW/MIA family. The overall goal of these investigations is to supplement existing knowledge and understanding of the detrimental or beneficial effects of prolonged stress upon human effectiveness."

This paper investigates the relationships between quantified mental status examinations conducted at the time of repatriation (OPERATION HOMECOMING), and during the first two annual follow-up

physical examinations, and a variety of demographic, health, adaptive, and behavioral variables.



### Methods and Procedures

#### Sample

One hundred thirty-eight Naval Aviation Officers (Pilots, and Bombardier/Navigators) who had been prisoners of war in North Vietnam for an average of 61.7 months were returned to the United States between February and April, 1973 (11).

The group of 121 Navy RPWs reported on in this paper included 87 pilots and 34 bombardier/navigators for whom complete mental status data were available for all three examinations: at repatriation, first year follow-up, and second year follow-up.

#### Instruments

Repatriation Mental Status Examination. Each RPW underwent a comprehensive medical and dental examination on his return to the United States. The repatriation examinations were conducted at 12 different Naval Regional Medical Centers (Naval Hospitals) (11-12). There were 49 psychiatrists who completed mental status examinations on the Navy RPWs at repatriation (13).

The mental status examination utilized at the time of repatriation comprised 13 subsections with a total of 399 items: reliability of information, barriers to communication, state of consciousness, orientation, memory, appearance and behavior, characteristics of speech, thought processes, affect and feeling, perception, intellectual functions, somatic functioning, and social interactions and personality characteristics. Many of the items required a simple dichotomous response: "State of Consciousness:

Lucid: Yes \_\_\_\_ No \_\_\_\_." A "yes" response was scored +1, a "no" was scored as -1. Some of the items required the examiner to quantitatively scale his response. In one type of scaled item ("Orientation: Time; Place; Person; Situation"), the scale ranged from "normal" (scored +1) to "mildly (-1), moderately (-2), markedly (-3), abnormal." A second type of scale went from "not at all," to "occasionally," to "often or extensively." If the behavior being rated was positive (e.g., "friendly"), it would be scored as (-1), 0, or (+1) respectively; if the behavior was negative (e.g., "irritable"), the scale scores were reversed: (+1) for "not at all," etc. The maximum possible net scores on the Mental Status Examination ranged from (+) 148 to (-) 457.

Individuals with higher net scores on the Mental Status Examination are considered to have a better state of emotional health than those with lower net scores. In keeping with the Problem Oriented Record Concept, the examining psychiatrists summarized their findings under four general headings: Psychiatric Diagnoses, Psychiatric Problems, Treatment Plans, and Prognosis.

Annual Follow-up Mental Status Examinations. The annual medical follow-up examinations have been conducted at the Naval Aerospace Medical Research Laboratory; the Navy psychiatrists and clinical psychologists who conducted the psychiatric portion of the examination were attached to the Naval Aerospace Medical Institute. There were five to seven psychiatrists/psychologists who

conducted the examinations (14). While there has been no attempt to have the same RPM interviewed by the same examiner each year, the small number of examiners involved were all experienced in working with Naval aviators, and their daily interaction as a staff would tend to make their attitudes and methods consistent.

The Naval Aerospace Medical Institute Mental Status Examination form was used during the annual follow-up examinations (13). This form has six subsections (general appearance, psychological functioning, organic brain functioning, impairment of judgment, insight, and potential for therapeutic alliance), and covers much the same materials as did the Repatriation Examination. The 326 items are all weighted by the examiner on a scale of 0 to 4: (0) absence of a trait, (1) very mild -, (2) mild -, (3) moderate -, and (4) severe presence of a trait. Thus, positive items had a scale range of (0) to (+4); while negative items ranged from (0) to (-4). The maximum possible net scores ranged from (+84) to (-1192).

Demographic, Health, Adjustment, and Behavioral Variables.

These variables included: 1. marital status, 2. rank at time of capture, 3. months of military service at time of capture, 4. age at time of capture, 5. duration of captivity, 6. Regular Navy versus Naval Reserve status, 7. number of physical diagnoses established during the repatriation medical examination, 8. number of psychiatric diagnoses and number of psychiatric problems established at the first, and 9. second annual follow-up examinations,

and 10. progression of duty assignments (a measure of career progress, computed separately for each rank).

### Results

The percentages of RPWs with psychiatric diagnoses, and/or psychiatric problems at the three examinations can be seen in Table 1. At the time of repatriation four Navy RPWs (3%) were given psychiatric diagnoses consisting of three anxiety neuroses and one depressive neurosis. Psychiatric problems (mainly interpersonal) were present in 38 percent. To date (1978), no Navy RPM has been found unfit for continued active naval service because of a psychiatric diagnosis/problem.

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Insert Table 1 about here  
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The range of psychiatric diagnoses/problems can be seen in Table 2.

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Insert Table 2 about here  
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Table 3 had been prepared to clarify the relationships between frequency of occurrence of the major diagnoses at each examination (Table 2) and the number of individual RPWs involved. For example, Table 2 shows that there were five RPWs with a diagnosis of "Anxiety Neurosis" at the first follow-up examination; from Table 3 it can be ascertained that two of these RPWs had the same diagnosis at repatriation, while for three RPWs this was a new diagnosis.

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Insert Table 3 about here  
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Summary of the clinical findings across all three examinations shows that 43 (35%) of the Navy RPW's have had no psychiatric diagnosis/problem at any of the three examinations. Twenty-two (18%) of the RPWs were given a psychiatric diagnosis at repatriation and/or the first follow-up examinations; by the second follow-up examination, eight of these 22 RPWs were recovered, five were improved, two were unchanged, and seven were worse. There were two RPWs with psychiatric diagnoses at the second follow-up who had been free of diagnoses in earlier examinations. There were 53 RPWs (44%) who had only psychiatric problems (no diagnoses) at repatriation and/or the first follow-up examinations; by the second follow-up examination, 43 of these 53 RPWs were recovered, 2 were improved, 8 were unchanged, and none were worse. There were 6 (5%) new problems listed at the second follow-up examination.

#### Correlational Analysis

All Pearson Product Moment correlations shown in Table 4 are significant at or beyond the .05 level on a two-tailed test. It should be noted that a negative correlation between net mental status score and number of diagnoses does not imply lack of consistent direction with respect to mental health; rather, it reflects the scoring system in which a higher net score on the mental status examination is indicative of a lower number of psychiatric diagnoses (13).

- - - - -  
Insert Table 4 about here  
- - - - -

There were two additional significant intercorrelations of interest: Age at Time of Capture with Physical Diagnoses at Repatriation,  $r=.33$ ,  $p<.001$ ; and, Progression of Duty Assignments with Net Mental Status Score at First Follow-up,  $r=.18$ ,  $p<.05$ .

### Discussion

The results presented above indicate that quantified mental status examinations manifest significant relationships to one another and to other indices of military and personal adjustment.

The findings are particularly interesting in light of the fact that the repatriation examinations were conducted by 49 different examining psychiatrists (13). Many of the psychiatrists had recently reported for active duty with the Navy Medical Corps, and the majority had no experience in evaluating naval aviators or prisoners of war. The very few diagnoses that were made at repatriation (Table 1) may reflect the psychiatrist's conscious or unconscious desire to avoid assigning a diagnosis to an individual who has already endured the stress of incarceration, torture, and malnutrition. The many psychiatric problems listed at repatriation tend to substantiate the psychiatrist's ambivalence about making a definitive psychiatric diagnosis. However, the majority of the examining psychiatrists had completed their residencies, and were trained observers; they very ably recorded the mental status of the RPWs.

It was found, as would be expected, that the quantified net mental status scores at repatriation correlated significantly with both psychiatric diagnoses and psychiatric problems at repatriation. In addition, the repatriation net mental status scores correlated significantly with psychiatric problems at the first

follow-up examination, and with both psychiatric diagnoses and psychiatric problems at the second follow-up examination. This is in contrast to both psychiatric diagnoses at repatriation, which had a significant correlation ( $r=.20$ ,  $p<.05$ ) only with psychiatric problems at first follow-up; and, to psychiatric problems at repatriation which did not correlate significantly with diagnoses or problems at either follow-up examination.

Clinically, during the initial phase of the repatriation examination of the RPWs, many were observed to have transient episodes of anxiety, depression, or hyperactive behavior. These symptoms lasted from two to six days and disappeared with no specific therapy except to rearrange the RPWs' schedule, creating periods when they could be alone.

It was postulated that the principal cause of these transient episodes was the exposure to increased sensory stimuli. During the period of their incarceration they had been punished if caught communicating; time was something to be wasted or used in slowly performing menial functions (15). At repatriation all of this was reversed. The RPWs attempted to catch up on their families' activities, become reacquainted with old friends, and had to cooperate with their physical examination and intelligence debriefing. In addition, the general public made many requests upon the RPWs to speak at schools, churches, and civic organizations. The RPWs all felt that it was their obligation to accept all of these invitations.

The change from prison to freedom was characterized initially by a perception of being overloaded with sensory stimuli and a premium was once again placed on the utilization of time. In many instances it took several weeks to months before the RPWs could comfortably decline an invitation to speak on "What is it like being a POW"?

The lowered incidence of psychiatric problems shown at the first and second follow-ups, compared to repatriation, indicates that a significant number of the Navy RPWs, with or without professional assistance, resolved their personal and interpersonal adjustment problems during the first years of their repatriation. In many instances, following the return to duty, the Navy RPW became fully involved in regaining the skills commensurate with his professional career, as well as establishing new interpersonal liaisons.

The present group of RPWs has not shown the increased rates of morbidity or mortality that the POWs from World War II and Korea demonstrated (8,16). This may be accounted for in several ways. Compared to the POWs of previous wars, the Navy RPWs can be considered as a unique group because of their higher mean age, greater education, and higher motivation. In addition, the plan initiated by the Department of Defense and coordinated by the Center for Prisoner of War Studies before the RPWs' return, mobilized broad-range social support systems for the RPWs' care upon repatriation. The support systems included family interviews before repatriation

which outlined problem areas, extensive medical and dental examinations at repatriation, annual follow-up examinations, and social services that were available to the RPWs on an "on call" basis. In addition, there was the unplanned, "All-American" welcome extended to the RPWs by the millions of Americans who were collectively frustrated over a long, unpopular war. These social system supporting activities were not available to POWs from World War II, Korea, and the Pueblo.

Whether the trend of diminished psychiatric pathology will continue or not must await a longer period of observation and the comparison of the RPWs' health and adjustment to a matched control sample who are being examined on an annual basis (15). The likelihood of former POWs from earlier wars or concentration camp survivors developing psychiatric illness five to 10 years following their release from incarceration has been previously reported (6-8, 16-20).

In the future, the present group of Naval aviators/RPWs will need to adjust to new duty assignments, significant interpersonal relationships, and eventually to deal with termination of their Naval careers, retirement, and possibly new career endeavors. Situations may arise that could precipitate an adult adjustment reaction, or even a depression. However, with this groups' proven ability to cope with or defend against stress, hopefully they may continue with their current pattern of excellent adjustment.

### Conclusions

Most of the returned Navy RHM were psychologically healthy. Only four warranted a formal psychiatric diagnosis at the time of repatriation. However, there were many identified as having various psychiatric problems of a situational nature. A significant number identified as having these situational adjustment problems tended to resolve their difficulties in a satisfactory manner.

As would be expected, the quantified mental status examination has been shown to correlate significantly with psychiatric diagnoses and psychiatric problems recorded during the same examination as the mental status examination itself. Of greater interest is the fact that a mental status score achieved at repatriation was correlated significantly with mental status scores in subsequent years and with diagnoses and problems recorded during those subsequent years. Thus, it may be concluded that in certain situations of operational psychiatry and possibly in some clinical applications, quantified mental status examinations could be used for predictive purposes.

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TABLE 1  
 Percentage of Repatriated Prisoners of War with Psychiatric  
 Diagnoses of Problems at Repatriation,  
 at First Follow-up, and  
 at Second Follow-up

	PERCENTAGE AT:		
	REPATRIATION	FIRST FOLLOW-UP	SECOND FOLLOW-UP
No Psychiatric			
Dysfunction	59	61	76
Psychiatric			
Diagnoses*	3	17	17
Problems	38	22	7

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\* If a RPW had both a psychiatric diagnosis and one or more problems, he was counted only in the "Diagnosis" category.

TABLE 2  
Frequency of Reported Psychiatric Diagnoses and Problems  
at Repatriation, First Follow-up, and Second Follow-up

A. PSYCHIATRIC DIAGNOSES

<u>DSM II Code</u>		Frequency at:		
		<u>Repatriation</u>	<u>Follow-up</u>	<u>Second</u>
300.0	Anxiety Neurosis	3	5	2
300.2	Phobic Neurosis	0	1	0
300.4	Depressive			
	Neurosis	1	7	3
300.5	Neurasthenia	0	1	0
301.1	Cyclothymic			
	Personality	0	0	1
301.2	Schizoid			
	Personality	0	1	1
301.4	Obsessive-Compulsive Personality	0	4	7
301.5	Hysterical			
	Personality	0	3	3
303.0	Episodic Excessive Drinking	0	0	2
303.9	Alcoholism/Other & Unspecified	0	2	0

TABLE 2 (continued)

DSM II Code		Frequency at:		
		Repatriation	Follow-up	Follow-up
First	Second			
305.6	Psychophysiological			
	Disorder/G-U	0	2	0
306.0	Speech Disturbance	0	0	1
306.4	Disorders of Sleep	0	1	0
307.0	Transient Situational			
	Disturbance	0	3	12
	Totals*	4	30	32
<b>B. PSYCHIATRIC PROBLEMS</b>				
Marital Maladjustment		32	27	3
Children/Parents		11	9	0
Career/Vocation		11	11	0
Anxiety Reaction, Transient		5	0	0
Depression NOS, Transient		5	0	2
<b>Interpersonal Adjustment Life</b>				
Problems		4	0	1
Reactions/Other		4	1	0
Worry over Injuries		4	0	0
Alcohol		3	0	1
Anxiety NOS		1	2	0
Schizoid Traits		0	2	0
Obsessive-Compulsive Traits		0	1	0

TABLE 2 (continued)

	Frequency at:		
	First	Second	
	Repatriation	Follow-up	Follow-up
Passive-Aggressive Traits	0	0	1
Passive-Dependent Traits	0	2	0
Personality Traits, Other	0	0	1
Neurotic Traits	0	1	0
Totals**	80	56	9

\* Total number of diagnoses reported at each examination. The number of individuals receiving one or more diagnoses can be ascertained from Table 1.

\*\* Total number of problems reported at each examination. The number of individuals involved can be ascertained from Table 1. Note that in Table 1, if a RPW had both a diagnosis and one or more problems, he was counted only in the "Diagnosis" category. Of the RPWs with diagnoses: at Repatriation, 3/4 also had a total of 5 problems; at First Follow-up, 13/21 also had a total of 15 problems; and at Second Follow-up; 1/21 also had one problem.

Table 3  
Development and Resolution of Major Psychiatric Diagnoses  
From Repatriation through Second Follow-Up

<u>DIAGNOSIS</u>	<u>S.</u>	<u>REPATRIATION</u>	<u>FIRST</u>	<u>SECOND</u>
Anxiety Neurosis		<u>f = 3</u>	<u>f = 5</u>	<u>f = 2</u>
(300.0) N=6 (5%)	a	<u>300.0</u>	--	--
	b	<u>300.0 + PsP*</u>	<u>300.0 + PsP</u>	<u>307.0**</u>
	c	<u>300.0 + PsP</u>	<u>300.0 + PsP</u>	<u>300.0 + 301.5 + PsP</u>
	d	--	<u>300.0 + 301.4</u>	<u>301.4</u>
	e	--	<u>300.0 + 300.4</u> +303.9 + PsP	<u>303.0 + 307.0</u>
	f	--	<u>300.0 + 301.2</u> + PsP	<u>300.0 + 301.2</u> +306.0
Depressive Neurosis		<u>f = 1</u>	<u>f = 7</u>	<u>f = 3</u>
(300.4) N=9 (7%)				
Includes S: e†	g	<u>300.4 + PsP</u>	<u>307.0 + PsP</u>	--
	h	--	<u>300.4</u>	--
	i	--	<u>300.4 + 306.4</u>	--
	j	PsP	<u>300.4 + 305.6</u>	--
	k	PsP	<u>300.4</u>	<u>307.0</u>
	l	PsP	<u>300.4 + PsP</u> +307.0	<u>300.4 + 301.4</u> +307.0
	m	PsP	<u>300.4 + 301.4</u> +PsP	<u>300.4 + 301.4</u> +307.0
	n	PsP	<u>300.5 + 305.6</u>	<u>300.4</u>

Table 3 (Cont'd.)

DIAGNOSIS	S. REFERRAL	FIRST	SECOND
		FOLLOW-UP	FOLLOW-UP
Obsessive Compulsive Personality	f = 0	f = 4	f = 7
(301.4) N=8 (7%)	o --	301.4	--
Includes Ss: d, l, m†	p --	301.4	301.4
	q PsP	PsP	301.4
	r PsP	--	301.4 + 307.0
	s --	PsP	301.4
Transient Situational Disturbance	f = 0	f = 3	f = 12
(307.0) N=14 (12%)	t PsP	307.0 + PsP	307.0
Includes Ss: b, e, g, k, l, m, r†	u --	307.0 + PsP	--
	v --	PsP	307.0
	w --	PsP	307.0
	x --	303.9+ PsP	307.0 + 303.0
	y --	--	307.0
	z --	--	307.0

\*PsP = Psychiatric/Interpersonal Problems noted by the examining psychiatrist, but without a formal diagnosis (e.g., marital maladjustment; anxiety reaction).

\*\*See Table 2 for definition of code numbers (e.g., 307.0 = Transient Situational Disturbance).

†Subjects with more than one major diagnosis are listed under each diagnosis, either as a table entry, or by S number in the left column. Thus, Subject "e" was listed under Anxiety Neurosis (300.0), but also received a diagnosis of Depressive Neurosis (300.4), and can be listed here as well.

Table 1  
Intercorrelation Matrix

		Physical Diagnoses	Psychiatric Problems	Physical Problems	Duration of Captivity	Age at Time of Capture	Proportion of Daily Activity	
MENTAL STATUS EXAM	Repartition	.24	-.36	-.21	-.21	-.25	-.22	
	1st Follow-Up	.42	-.25	-.36	-.19			.18
	2nd Follow-Up		-.30	-.50	-.29			
PSYCHIATRIC DIAGNOSES	Repartition			.20	.27			
	1st Follow-Up		.60	.29				
	2nd Follow-Up			.39		.18		
PSYCHIATRIC PROBLEMS	Repartition				.23			
	1st Follow-Up							
	2nd Follow-Up							
		Physical Diagnoses at Repartition			.21	.33		
		Duration of Captivity						
		Age at Time of Capture						

*Note.* Pearson correlation coefficients; all statistically significant on two-tailed probability test:  
 r .18 to .23,  $p < .05$   
 r .24 to .29,  $p < .01$   
 r  $\geq$  .30,  $p < .001$

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adaptational variables. Significant correlations were found between the mental status scores and the other variables.

\*Voluntary Informed Consent: Each individual in this study signed a detailed Voluntary Informed Consent Form which in part contained the following: "I also consent to have my data used in any published scientific reports of this investigation, subject to the assurance of anonymity."

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